

L 57781-65 EPF(c)/EWP(j)/EWA(c)/EWT(m) Pc-4/Pr-4 RPL RM/JW

ACCESSION NR: AP5015587

UR/0062/65/000/005/0800/0805
547.024 + 536.7

AUTHOR: Kalashnikova, L.A.; Rozantsev, E.G.; Chaykin, A.M.

TITLE: Saturated vapor pressure of certain stable free radicals

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1965, 800-805

TOPIC TAGS: free radical, vapor pressure, nitrogen compound, hydroxylamine, nitroso radical, iminoxyl radical

ABSTRACT: The saturated vapor pressures of certain nitroso and iminoxyl radicals and their hydrides were determined for the first time. The apparatus used for measuring the vapor pressure is described. The vapor pressure was determined by the effusion method, using the formula

$$p = \frac{0.286 G}{KSt} \sqrt{T/M},$$

where G is the amount of substance in grams passing through the aperture in the membrane of the effusion cell. The values of G were found by analyzing the substances spectrophotometrically and polarographically. The heats of sublimation were calculated from the vapor pressure values obtained. It was found that the saturated vapor pressures of the

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free pressures of the free radicals were higher than those of the corresponding hydroxylamines. ↑ Orig. art. has: 4 figures, 3 formulas and 3 tables.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 08Jul64

ENCL: 00

SUB CODE: GC

NO REF SOV: 005

OTHER: 007

Card

2/2

L 54449-65

SWT(m)/EPF(c)/EWP(j)/T/EWA(c)

Pc-4/Pr-4

RPL

BW/WW/JW/JWD/RM

ACCESSION NR: AP5012454

UR/0062/65/000/004/0718/0720

541.51+542.91

AUTHORS: Rozantsev, E. G.; Golubev, V. A.

TITLE: Free tetraradicals

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1965, 718-720

TOPIC TAGS: free radical, electron paramagnetic resonance, exchange reaction, hyperfine structure

ABSTRACT: When 2,2,6,6-tetramethyl-4-hydroxypiperidine-1-oxyl reacts with silicon tetrachloride and pyromellitic acid chloride, free individual tetraradicals are formed, having the structures I and II (see Fig. 1 on the Enclosure). These are red crystalline substances, stable in an oxygen atmosphere. The hyperfine structure of the electron paramagnetic resonance spectrum of radical I has nine lines with a splitting of 3.9 oersteds between them. This structure may be the result of exchange interaction between the spins and the nuclear magnetic moments of the four nitrogen atoms. The EPR spectrum of radical II has five components with a splitting of 7.8 oersteds. This structure is explained by exchange interaction between unpaired electrons and two nitrogen nuclei. To test this view, the authors

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ACCESSION NR: AP5012454

investigated the EPR spectra of two new specially synthesized biradicals, III and IV (see Fig. 2 on the Enclosure). It was found that the spectrum of III is similar to that of II, having 5 components with splitting of 7.9 oersteds. The spectrum of IV shows a triplet with a splitting of 15.6 oersteds, attesting to the absence of any interaction between the metasubstituents at room temperature. At 140-150C, however, interaction becomes appreciable, and the triplet is converted to a quintuplet. Since interaction between the parasubstituents in the biradical does not take place even at high temperatures, it might be expected that the EPR spectrum for II might show seven lines of hyperfine structure at elevated temperatures. The spectrum at 140-150C, however, shows nine hyperfine structure lines, with a splitting of 4.0 oersteds between the components. This indicates an extraordinary exchange interaction between spins and the nuclei of all four nitrogen atoms. Orig. art. has: 1 figure and 2 formulas.

ASSOCIATION: Institut khimicheskoy fiziki, Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 11Jul64

ENCL: 02

SUB CODE: OC, NP

NO REF SOV: 002

OTHER: 001

Card 2/2

SHAPIRO, A.B.; ROZANTSEV, E.G.; POVAROV, L.S.; GRIGOS, V.I.

New stable free radical 4-methyl-2-spirocyclohexyl-3,4; 3',2'-
tetrahydrofuranc-1,2,3,4-tetrahydroquinoline-oxyl. Izv. AN SSSR.
Ser.khim. no.9:1725 S '64. (MIRA 17:10)

1. Institut khimicheskoy fiziki AN SSSR.

ROZANTSEV, E.G.

Free organic radicals with a hydroxyl group. Izv. AN SSSR Ser.
khim. no.12:2187-2191 D '64 (MIRA 18:1)

Preparative synthesis of 2,2,6,6-tetramethyl-4-oxopiperidine-
1-oxyl. Ibid.:2218

1. Institut khimicheskoy fiziki AN SSSR.

KRINITSKAYA, L.A.; ROZANTSEV, E.G.; NEYMAN, M.B.

Synthesis of free iminoxyl radicals of hydrogenated pyrrole.
Izv. AN SSSR Ser. khim. no.1:115-118 '65.

(MIRA 18:2)

1. Institut khimicheskoy fiziki AN SSSR.

ROZANTSEV, E.G.; GOLUBEV, V.A.; MEYMAN, M.B.

Some free iminoxyl radicals in the series of hydrogenated pyridine.
Izv. AN SSSR Ser. khim. no.2:391-392 '65.

First kinetically stable individual iminoxyl biradical. Ibid.:393-394
(MIRA 18:2)

1. Institut khimicheskoy fiziki AN SSSR.

L 48980-65 EWT(m)/EPF(c)/EWP(j) PC-4/Pr-4 RPL RM

ACCESSION NR: AP5009664

UR/0062/65/000/003/0548/0550

AUTHOR: Neyman, M. B., Rozantsev, E. G., Golubev, V. A.

TITLE: The first stable triradicals 7

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1965, 548-550

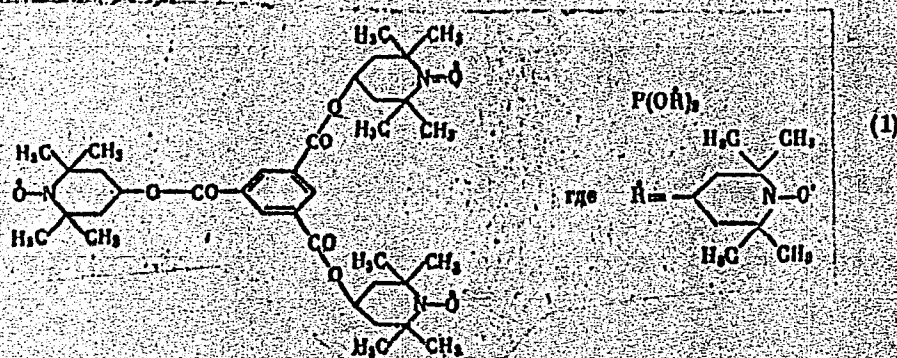
TOPIC TAGS: triradical, paramagnetic crystal, electron spin resonance spectrum, trimesoyl chloride

ABSTRACT: By reacting 2,2,6,6-tetramethyl-4-hydroxypiperidine-1-oxyl with trimesoyl chloride, the authors prepared for the first time two true individual triradicals, tris(2,2,6,6-tetramethylpiperidine-1-oxyl) trimesate (I) and tris(2,2,6,6-tetramethylpiperidine-1-oxyl) phosphite(II):

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ACCESSION NR: AP5009664



Triradicals (I) and (II) are paramagnetic crystalline compounds, stable both in solution and in the solid state. ESR spectra showed that the radical centers interact; as in biradicals, the nature of this interaction changes with the distance between the paramagnetic centers and the temperature. An analysis of the spectra is given, and the syntheses are described. Orig. art. has: 2 figures and 2 formulas.

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L 48980-65

ACCESSION NR: AP5009664

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 06Jul64

ENCL: 00

SUB CCDE: OC ,MP

NO REF SOV: 003

OTHER: 003

AN
3/3

NEYMAN, M.B.; ROZANTSEV, E.G.

Stable radicals as antioxidants. Izv. AN SSSR Ser. khim. no.7:
1178-1184 J1 '64. (MIRA 17:8)

1. Institut khimicheskoy fiziki AN SSSR.

L 8448-65 EMT(m)/EPF(c)/ENP(j)/T Po-h/Pr-h RPL/SSD/AFWL WW/JFW/RM/RWB
 ACCESSION NR: AP4044707 S/0062/64/000/008/1518/1521

AUTHOR: Neyman, M. B.; Mayranovskiy, S. G.; Kovarskaya, B. M.;
Rozantsev, E. G.; Gintsberg, E. G. 8

TITLE: Polarographic study of certain 1-oxide free radicals

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1964,
 1518-1521

TOPIC TAGS: electrochemical reduction, polarographic analysis, 1
 oxide free radical, free radical reduction, radical protonization

ABSTRACT: Electrochemical reduction of the 2,2,6,6-tetramethyl-
 piperidonyl 1-oxide radical (I) on a dropping mercury electrode has
 been studied and compared with that of the 2,2,6,6-tetramethyl-
 piperidino 1-oxide radical (II) to get additional data on the proper-
 ties and feasibility of polarographic analysis of recently discovered
 stable 1-oxide free radicals. The effects of pH, concentration, and
 nature of the buffer components and the indifferent electrolyte on
 the half-wave potential, $E_{1/2}$, were determined in aqueous buffer sol-
 utions at 25C. It was shown that in the 1-13 pH range both I and II

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ACCESSION NR: AP4044707

2

are reduced irreversibly to the corresponding hydroxylamine derivatives and produce a single-electron, single-step diffusion wave. The height of the wave is independent of pH, but $E_{1/2}$ shifts to negative potentials with increase in the pH of solution. $E_{1/2}$ remains nearly constant only in a narrow, neutral pH range. The pH dependence of $E_{1/2}$ is explained in terms of the kinetics of radical protonization, which takes place before the actual electrochemical process of electron transfer. The protonization in acid and alkaline solution and the irreversibility of the process are evidenced by the ionic strength dependence of $E_{1/2}$ in various buffer solutions. Addition of Cl^- or Br^- , which are adsorbed in a surface layer, caused a noticeable shift in $E_{1/2}$, which is equal to the change in the calculated wave function ψ_1 . Orig. art. has: 2 figures and 2 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR); Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

Card 2/3

L 8448-65

ACCESSION NR: AP4044707

SUBMITTED: 03Jan64

ATD PRESS: 3097

ENCL: 00

SUB CODE: IG, OP

NO REF SOV: 006

OTHER: 002

Card 3/3

L 10761-65 EWT(m)/EWG(v)/EWP(j)/T Pc-4/Pe-5 RM

ACCESSION NR: AP4047194

S/0190/64/006/010/1737/1743

AUTHOR: Kovarskaya, B. M.; Neyman, M. B.; Gur'yanova, V. V.; Rozantsev, E. G.;
Nitché, O. N.

TITLE: Stabilization of polyformaldehyde

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 6, no. 10, 1964, 1737-1743

TOPIC TAGS: formaldehyde, oxidation inhibitor, polycaproamide, polyhexamethylene
sebacamide, polyamide 68, hexamethylene adipamide, polyamide 54, polymer stabili-
zation, polyformaldehyde, nitrogen oxide

ABSTRACT: The kinetics and mechanism of the reaction of formaldehyde with dif-
ferent polyamide resins and the effectiveness of a new class of inhibitors of the
radical type were investigated during the oxidation of polyformaldehyde. The
kinetic curves of the absorption of formaldehyde by different polyamide resins
(such as polycaproamide, polyhexamethylene sebacamide or polyamide 68, the copoly-
mer of caprolactam and hexamethylene adipamide - polyamide 54) show that the high-
est rate of formaldehyde absorption is obtained with polyamide 68, the saturation
point of which is obtained 15 minutes after the beginning of the experiment. The
lowest rate of absorption is with polyamide 54, for which the equilibrium state
is attained after 200 min. The rate of attaining the maximum absorption of formal-
dehyde is 1/3

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ACCESSION NR: AP4047194

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dehyde increases considerably with increasing formaldehyde pressure and temperature. By increasing the initial pressure of formaldehyde from 300 to 600 mm Hg, the rate of absorption for polyamide 68 is increased 7 times, and for Kapron and polyamide 54 - 5-6 times. However, the final amount of absorbed formaldehyde decreases with increasing temperature. The possible conversions in polyamide resins were also investigated, as well as the inhibitory effect of polyformaldehyde with different nitrogen oxide radicals - for which the structural formulas are given. The effect of increased pressure during the thermal oxidative degradation of polyformaldehyde with resin 54 (1.5-2%) and an antioxidant (0.5-1%) at 200°C, P_{O_2} = 200 mm Hg, is plotted. The nitrogen oxide radicals were found to be very efficient stabilizers of polyformaldehyde, especially at lower oxidation temperatures (180°C). The relationship between the induction period and the concentration by weight of the stabilizer is also plotted. It is shown that the radical inhibitors are consumed mostly by reactions connected with inhibition of the thermal oxidation of polyformaldehyde. The inhibitors retard the oxidation of formaldehyde and are completely consumed during the induction period. Orig. art. has: 7 figures and 4 chemical formulas.

ASSOCIATION: Nauchno-issledovatel'skiy Institut plasticheskikh mass (Scientific Research Institute of Plastics)

Card 2/3

L 10761-65

ACCESSION NR: AP4047194

SUBMITTED: 18Nov63

ENCL: 00

0
SUB CODE: 00, MT

NO REF SOV: 015

OTHER: 003

Card 3/3

ACCESSION NR: AP4042869

S/0062/64/000/007/1178/1184

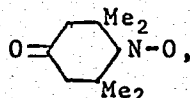
AUTHOR: Neyman, M. B.; Rozantsev, E. G.

TITLE: The use of stable radicals as antioxidants

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1964, 1178-1184

TOPIC TAGS: antioxidant, free radical, nitroxide, acetoneamine, polymer stabilization, polymeric material, polyformaldehyde stabilization, polyamide 68 stabilization, polypropylene stabilization

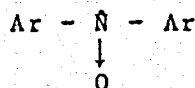
ABSTRACT: The authors had previously found that a new type of antioxidant — the nitroxides — terminate the oxidation chain reaction without increasing the probability of branching of the reaction chains. These new antioxidants contain a =N-O· group with a free-radical valence. The simplest nitroxide was synthesized from acetone and ammonia by the catalytic oxidation of the intermediate triacetoneamine to the structure:



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ACCESSION NR: AP4042869

where Me represents the CH_3 group. Further, a series of aromatic nitroxides of the type



was prepared, where Ar designates a substituted aromatic radical with alkyl and alkoxy substituents. The previous experiments of the authors, in which ethylbenzene was oxidized by air in the presence of azobisisobutyronitrile used as the chain initiator, indicated that the nitroxide radicals of the triacetoneamine series practically do not react with the formed hydroperoxide radicals $\text{ROO}\cdot$. However, when oxygen was excluded and replaced by helium, the reaction of nitroxide free radicals with hydrocarbon radicals $\text{R}\cdot$ took place. Similar behavior of nitroxide radicals was observed also in the oxidation of isotactic polypropylene in films; it was found that nitroxide radicals accelerated the decomposition of hydroperoxide (which results in branching of the chain) only 30%, while the aromatic amines which are also used as antioxidants accelerated this

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ACCESSION NR: AP4042869

decomposition by 30—40 times. Experiments with the oxidation of polyamide-68 at 160C and 200 mm Hg oxygen pressure indicated that bis-2,2,6,6,-tetramethyl-4-ethyl-4-hydroxypiperidine nitroxide produced an induction period of approximately 200 min, i.e., equal to that produced by one of the most effective antioxidants — Neozone D. In experiments involving the thermooxidative decomposition of polyformaldehyde the nitroxide radical was to be combined with a polyamide to bind the evolving formaldehyde. An increase in nitroxide antioxidant concentration produces an increase in the induction period, and saturation is attained after the initial increase of the effect. The authors state that the effectiveness of the nitroxide antioxidants depends on the structure of the compounds; however, the reaction found by the authors for their synthesis of nitroxides makes it possible to prepare a variety of these antioxidants, including compounds with low volatility and high antioxidant effectiveness. Some water-soluble nitroxides might be of interest for biochemical studies; aromatic nitroxides are promising antioxidants for rubber. Orig. art. has: 11 figures.

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ACCESSION NR: AP4042869

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of
Chemical Physics AN SSSR)

SUBMITTED: 20Feb64

ATD PRESS: 3070

ENCL: 00

SUB CODE: OC, MT

NO REF SOV: 016

OTHER: 007

Cord 4/4

ROZANTSEV, E. G.; KRINITSKAYA, L. A.; TROITSKAYA, L. S.

Use of boric acid esters as antioxidants for polymeric materials.
Khim prom no. 3:80-183 Mr '64.

(MIRA 17:5)

BUCHACHENKO, A.L.; ROZANTSEV, E.G.

Electronic conductivity of tertiary carbon atom. Izv. AN SSSR.
Ser.khim. no.3:556-557 Mr '64. (MIRA 17:4)

1. Institut khimicheskoy fiziki AN SSSR.

MEDZHIDOV, A.A.; BUCHACHENKO, A.L.; ROZANTSEV, E.G.; NEYMAN, M.B.

Chromatographic separation of the radicals formed during the
oxidation of hydrogenated 2,2,4-trimethylquinolines. Izv. AN SSSR
Ser.khim. no.10:1713-1717 0 '63. (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR.

ROZANTSEV, E.G.; MEDZHIDOV, A.A.; NEYMAN, M.B.

Kinetically stable radicals of the pyrrole series. Izv. AN SSSR
Ser.khim. no.10:1876-1877 O '63. (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR.

ACCESSION NR: AP4018159

S/0191/64/000/003/0014/0017

AUTHORS: Levantovskaya, I.I.; Kovarskaya, B.M.; Neyman, M.B.;
Rozantsev, E.G.; Yazvikova, M.P.

TITLE: Inhibiting the thermal oxidative destruction of polyamides
with aromatic amines and radical type stabilizers

SOURCE: Plasticheskiye massy*, no.3, 1964, 14-17

TOPIC TAGS: polyamide, thermal oxidation, oxidation inhibition,
antioxidant, phenyl beta naphthylamine, piperidine nitric oxide,
piperidone nitric oxide, radical type stabilizer, induction period

ABSTRACT: The inhibition of thermal oxidation of polyamides with
phenyl-beta-naphthylamine and with the free radical type stabilizers
2,2,6,6-tetramethylpiperidone nitric oxide and 2,2,6,6-tetramethyl-4-
ethyl-4-hydroxypiperidine nitric oxide was investigated. The radical
stabilizers display marked inhibition of thermal oxidation. Less
than half of the original amount of aromatic amine is spent during
the induction period in inhibiting polyamide thermal oxidation; inhi-

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ACCESSION NR: AP4018159

bition of oxidation at the end of the induction period apparently depends on the remaining unspent antioxidant. Unlike the aromatic amines, the free radical inhibitors retard the oxidation of polyamides until they are completely consumed. At the end of the induction period the rate of oxidation with these radical inhibitors approaches the rate of oxidation of the uninhibited polymer. Orig. art. has: 8 figures and 2 formulas.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: CH

NR REF SOV: 008

OTHER: 000

Card 2/2

LEVANTOVSKAYA, I.I.; KOVARSKAYA, B.M.; NEYMAN, M.B.; ROZANTSEV, E.G.;
YAZVIKOVA, M.P.

Inhibition of the thermooxidative degradation of polyamides
by aromatic amines and radical type stabilizers. Plast.mas-
sy no.3:14-17 '64. (MIRA 17:3)

ROZANTSEV, E.G.; KRINITSKAYA, L.A.; ROZYNOV, B.V.

Thermooxidizing degradation of polypropylene in the presence
of boric acid esters. Plast. massy no.11:46-48 '63.
(MIRA 16:12)

ROZANTSEV, E.G.

Reactions of a new organic radical in which free valency is not involved. Izv. AN SSSR. Ser.khim. no.9:1669-1672 S '63.
(MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR.
(Radicals (Chemistry))

ROZANTSEV, E.G.; NEYMAN, M.B.; MAMEDOVA, Yu.G.

Reaction of free organic radicals with Grignard reagents. Izv. AN
SSSR. Ser. khim. no. 8: 1509-1511 Ag '63. (MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR.
(Radicals (Chemistry)) (Grignard reagents)

ACCESSION NR: AP4031443

S/0064/64/000/003/0180/0183

AUTHORS: Rozantsev. E.I.; Krinitskaya, L.A.; Troitskaya, L.S.

TITLE: The use of boric acid ethers as antioxidants for polymeric materials

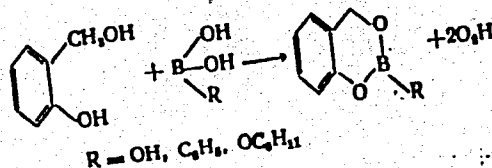
SOURCE: Khimicheskaya promy'shlennost', no. 3, 1964, 180-183

TOPIC TAGS: boric acid ether, aliphatic aromatic diol borate, anti-oxidant, polymer antioxidant, synthesis, thermal oxidation inhibitor, isotactic polypropylene, salicylalcohol acid borate, salicylalcohol phenyl borate, thiobisalkylphenol acid borate, thiobisalkylphenol phenyl borate, UV spectrum, oxidation induction period, synergism, free radical inhibitor, volatility, antioxidant stability, toxicity,

ABSTRACT: Several boric acid ethers were synthesized and investigated as inhibitors of thermal oxidation of isotactic polypropylene. The acid borates and phenyl borates of aliphatic-aromatic diols were prepared by heating the diol and boric acid or phenylboric acid in benzene or toluene according to the reaction:

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ACCESSION NR: AP4031443

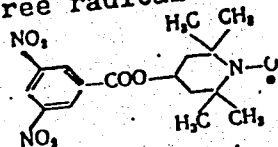


The acid borates and phenylborates of salicylalcohol and of 2,2'-thio-bis-[4-methyl-6-tert.butyl-7 phenol and the salicylalcohol borate-cyclohexanol reaction product were synthesized and characterized. All were colorless crystalline materials; all were reasonably stable except the last product which hydrolysed to the component borate of salicylalcohol and cyclohexanol. The u.v. spectra of these compounds have a maxima in the 270-290 millimicron region.

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ACCESSION NR: AP4031443

When tested as oxidation induction inhibitors for isotactic polypropylene at 200C, the borate and phenylborate of 2,2'-thio-bis[4-methyl-6-tert.butyl] phenol were the most effective. The phenylborate of salicylalcohol showed synergistic effects when used in combination with a free radical inhibitor of the type:



These boric acid ethers compared with phosphorous acid ethers as antioxidants, but are reportedly more stable at high temperatures, exhibit low volatility and toxicity, are compatible with polymers and soluble in organic solvents. Orig. art. has: 8 figures, 3 equations and 2 formulae.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

OTHER: 008

NR REF SOV: 003

SUB CODE: OC
Card 3/3

ROZANTSEV, G.

Our literature should answer the inquiries of workers engaged in commerce. Sov. torg. 34 no.12:16-19 D '60. (MIRA 13:12)

1. Direktor Gostorgizdata.

(Bibliography---Commerce)

ROZANTSEV, G.

A book is a reliable assistant. Sov. torg. 35 no.12:20-22 D '61.
(MIRA 14:11)

1. Direktor Gosudarstvennogo izdatel'stva torgovoy literatury.
(Distributive education)
(Booksellers and bookselling)

ROZANTSEV, G.; NAZAROV, B.

Today's trade literature. Sov. torg. 35 no.5:43-46 My '62.
(MIRA 15:5)
(Bibliography--Commerce)

S/079/60/030/007/028/039/XX
B001/B066

AUTHORS: Yur'yev, Yu. K., Zaytseva, Ye. L., and Rozantsev, G. G.

TITLE: Chemistry of Selenophene. XXVII. Composition of the Nitration Product of Selenophene

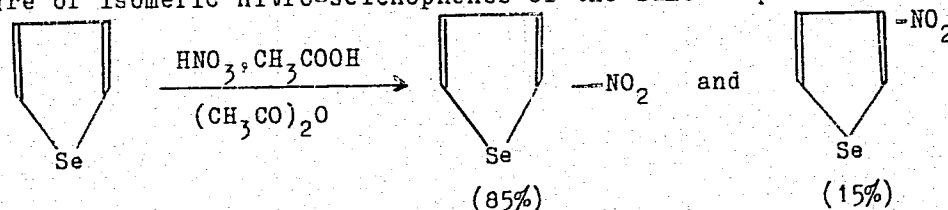
PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7, pp. 2207-2209

TEXT: It may be seen from the papers of Refs. 1-5 on the nitration of selenophene that the largest component of the reaction product obtained by nitration of selenophene is 2-nitro-selenophene in its α -form, and that the α -form, being a lower-melting form which is more easily soluble, "decrystallizes" only after further treatment, i.e., by separating the crystals from the oil fraction and by repeated crystallization. This assumption is supported by the fact that the α -form is lost to a larger extent than the β -form, i.e., 3-nitro-selenophene. The loss in the α -form and the concentration of the β -form in crystals last until both begin to crystallize in the ratio mentioned above. To confirm the correctness of this conclusion, the ultraviolet absorption spectra of pure 2-nitro- and 3-nitro-selenophene were studied (Ref. 1) and compared with the spectrum of

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Chemistry of Selenophene. XXVII. Composition of the Nitration Product of Selenophene S/079/60/030/007/028/039/XX B001/B066

the nitration product of selenophene, which was taken by the method of S. Umezawa (Ref. 2) in pure condition. A comparison of the curves of the ultraviolet spectra of the nitro-selenophene samples and of the nitration product of selenophene (Diagram) confirmed the authors' assumption and indicated that the latter compound is a mixture of mononitro-selenophenes in which the α -isomer is actually predominant: The content of 2-nitro-selenophene in the mixture is 85%, whereas 3-nitro-selenophene has only a 15% yield. The adsorption curve of this mixture of nitration products of selenophene corresponds to the adsorption curve of an artificial mixture of isomeric nitro-selenophenes of the same composition:



By improving the method of separating the nitration products of selenophene from the reaction mixture it was possible to increase the nitro-

Card 2/3

Chemistry of Selenophene. XXVII. Composition of the Nitration Product of Selenophene S/079/60/030/007/028/039/XX
B001/B066

selenophene yield from 15 to 25%. A higher yield is, apparently, prevented by the considerable resinification of the product in the course of reaction. There are 1 figure, 1 table, and 5 references: 1 Soviet, 1 French, 2 German, and 1 Japanese.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
(Moscow State University)

SUBMITTED: July 1, 1959

Card 3/3

ROZANTSEV, G.G.; LOMT, G.I.; YAKUBOVICH, A.Ya.

Phenyl esters of perfluoroaliphatic mono and dicarboxylic acids.
Zhur. ob. khim. 34 no.9:2974-2976 S '64.

(MIRA 17:11)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

86505

5.3700

1209, 1281, 1273

S/079/60/030/011/011/026
B001/B066

AUTHORS: Yur'yev, Yu. K., Zaytseva, Ye. L., and Rozantsev, G. G.

TITLE: Chemistry of Selenophene. XXXI. Reactions of the Acid Chloride of 5-Nitro-selenophene-2-carboxylic Acid and of 5-Nitro-2-diazoacetoselenophene

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 11, pp.3672-3675

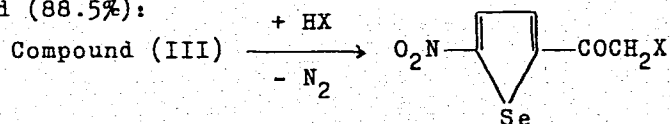
TEXT: In the present paper, the above acid chloride (I), from which 5-nitro-2-acetoselenophene had been obtained previously (Ref.1), was used in the synthesis of a number of substituted amides of 5-nitro-selenophene-2-carboxylic acid (II), as well as of ω -derivatives of 5-nitro-2-acetoselenophene. On reaction of this acid chloride with dimethyl amine, pyrrolidine, piperidine, morpholine, the dimethyl amide of 5-nitro-selenophene-2-carboxylic acid; 1-(5'-nitro-selenenoyl-2')-pyrrolidine; 1-(5'-nitro-selenenoyl-2')-piperidine; N-(5-nitro-selenenoyl-2)-morpholine were synthesized accordingly. Compound (I) was also allowed to react with diazomethane which gave 5-nitro-2-diazoacetoselenophene (III) in a yield of 70.5%. The ether solution of diazomethane

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86505

Chemistry of Selenophene. XXXI. Reactions of S/079/60/030/011/011/026
the Acid Chloride of 5-Nitro-selenophene-2- B001/B066
carboxylic Acid and of 5-Nitro-2-diazoacetoselenophene

obtained from nitroso-methyl urea (Ref.2) had to be first distilled since also traces of alkali lye cause a resinification and decrease the yield. According to the US patent (Ref.3), 5-nitro-2-diazoacetofuran was obtained in a yield of 83.5% by this method in the nitrofuran series by reaction of the acid chloride of the corresponding acid with diazomethane; in the thiophene series, this reaction has so far not been investigated. On hydrolysis of 5-nitro-2-diazoacetoselenophene with dilute sulfuric acid, the authors obtained 5-nitro-2-hydroxy-acetoselenophene (IV) in good yield (96%). By treating diazo ketone with HCl or HBr, 5-nitro-2-chloro-acetoselenophenes (V) is formed (92.5%), or, accordingly, the bromine product (VI) (84%); on treatment with acetic acid, the compound (VII) was obtained (88.5%):



(IV) X = OH, (V) X = Cl, (VI) X = Br, (VII) X = OCOCH₃.

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86505

Chemistry of Selenophene. XXXI. Reactions of S/079/60/030/011/011/026
the Acid Chloride of 5-Nitro-selenophene-2- B001/B066
carboxylic Acid and of 5-Nitro-2-diazoacetoselenophene

In the same way, 5-nitro-2-chloro-acetofuran (96%) and 5-nitro-2-bromo-
acetofuran (85.5%) (Ref.4) were synthesized. There are 5 references:
4 Soviet and 1 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State
University) X

SUBMITTED: January 1, 1960

Card 3/3

YUR'YEV, Yu.K.; GAL'BERSHTAM, M.A.; ROZANTSEV, G.G.

Selenophene chemistry. Part 41: Reaction of
2-chloromethylselenophene with amino alcohols.
Zhur.ob.khim. 32 no.11:3562-3567 N '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni
M.V. Lomonosova.

(Selenophene) (Alcohols)

ACCESSION NR: APL4037281

S/0190/64/006/005/0838/0842

AUTHORS: Yakubovich, A. Ya.; Rozantsev, G. G.; Braz, G. I.; Bazov, V. P.

TITLE: Fluorinated polybenzimidazoles

SOURCE: Vysshomolekulyarnyye soyedineniya, v. 6, no. 5, 1964, 838-842

TOPIC TAGS: polybenzimidazole, fluorinated polybenzimidazole, diaminobenzidine perfluoroglutarate polycondensation, diaminobenzidine diphenyl perfluoroglutarate, polyperfluorotrimethylenedibenzimidazole

ABSTRACT: Low-molecular poly-2,2'-(perfluorotrimethylene)-5,5'-dibenzimidazole (PPD) was synthesized by melting 0.5 gm 3,3'-diaminobenzidine with 0.92 gm diphenylperfluoroglutarate at 180C in an atmosphere of argon. Within 30 minutes the temperature was raised to 190C, and the heating was continued for another 30 minutes at 1.5 mm pressure. After grinding the reaction mass to a powder the heating was continued for 3 hours at the same pressure, with the temperature gradually increased to 220C. This procedure yielded polymer I. Polymer II was obtained by allowing the process to run the last three hours at 190C and 0.3 mm pressure. When the last stage was continued for 5 hours at 190C and 0.04 pressure,

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ACCESSION NR: APL037281

the resulting compound was labeled polymer III. The yield of polymers I, II, and III averaged 59%. They were dissolved in m-cresol from which they were precipitated by ether. The products were then analyzed and studied by infrared spectroscopy. Specific viscosities of 0.2% solutions of polymers I and III in cresol were found to be 0.035 and 0.055 respectively, while polymer II did not show any noticeable viscosity. Heating at 220-230C in an atmosphere of argon brought about the decomposition of the PPD polymer, with the liberation of fluorine. Orig. art. has: 2 tables, 2 formulas, and 1 chart.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute)

SUBMITTED: 03Jun63

DATE ACQ: 09Jun64

ENCL: 00

SUB CODE: MT

NO REF SOV: 003

OTHER: 004

Card 2/2

ROZANTSEV, G.G.; FAYNZIL'BERG, A.A.; NOVIKOV, S.S.

Advances in the chemistry of carbenes. Usp.khim. 34 no.2:177-218
F '65. (MIRA 18:5)

1. Laboratoriya khimii alifaticheskikh soedineniy Instituta
organicheskoy khimii imeni Zelinskogo AN SSSR.

Technology

Experience of the leading workers.
Moskva, Gostorgizdat, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

Technology

Leaders in the All-union Socialist Competition.
Moskva, Gostorgizdat, 1951

Monthly List of Russian Accessions, Library of Congress, April 1952, UNCLASSIFIED

RUSSIAN, J. I.

Technology

Selection, Training and education of commercial employees.
Moskva, Gostorgizdat, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

ROZANTSEV, I.N.

Measuring the lifetime of the first excited state of Te^{125} . Izv. AN
SSSR. Ser. fiz. 28 no.1:88-89 Ja '64. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo
gosudarstvennogo universiteta.

L 57796-65 EWA(h)/EWP(x)/EWT(a)/EWT(m)/T-2/EWP(w) Pf-4/Peb EM
 ACCESSION NR: AP5016782 UR/0286/65/000/010/0116/0117
 629.135/138 27
 3

AUTHOR: Polishchuk, K. Ye.; Yemel'yanov, S. S.; Dmitriyev, M. V.; Rozantsev, I. N.

TITLE: Icing indicator, Class 62, No. 171271

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 116-117

TOPIC TAGS: icing indicator, aircraft wing icing, icing, icing sensor, particle counter

ABSTRACT: An Author Certificate has been issued for an icing indicator to be mounted on the leading edges of aircraft. A radiation source is used as the sensing element of the icing sensor. A narrow beam of radiation is reflected from a screen mounted on the wing's leading edge; this beam splits and passes to two radioactive-particle counters positioned in diagonal to a balanced bridge which unbalances when the unheated portion of the screen is coated with a layer of ice. To provide favorable indicator-operating conditions, an electric heating element is mounted on one-half of the screen, thus preventing the possibility of icing (see Fig. 1 of the Enclosure). Orig. art. has: 1 figure. [LB]

Card 1/3

L 57796-65

ACCESSION NR: AP5016782

ASSOCIATION: none

SUBMITTED: 16Dec58

ENCL: 01

SUB CODE: AC, NP

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4041

Card 2/3

L 57796-65

ACCESSION NR: AP5016782

ENCLOSURE: 01

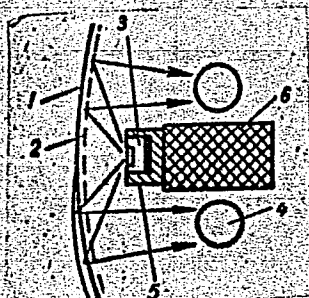


Fig. 1. Icing indicator

1 - Dural foil; 2 - heating elements; 3 - electron source; 4 - electron counter; 5 - lead screen; 6 - shield deflector.

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lip
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AP4010297

S/0048/64/028/001/0088/0089

AUTHOR: Rozantsev, I.N.

TITLE: Measurement of the lifetime of the first excited state of Te^{125} [Report, Thirteenth Annual Conference on Nuclear Spectroscopy held in Kiev, 25 Jan-2 Feb 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.1, 1964, 88-89

TOPIC TAGS: lifetime, lifetime measurement, tellurium 125

ABSTRACT: The purpose of the work was to determine the lifetime of the first excited level of Te^{125} which has an energy of 35.5 keV. The measurements were carried out by recording coincidences between the 27 keV x-rays and γ -rays with energies exceeding 280 keV, using an Sb^{125} source. The measurements were carried out on a set-up consisting of a γ - γ coincidence spectrometer similar to that described by A.S.Melioranskiy (Priroda i tekhnika eksperimenta, No.3,44,1961) and a time to pulse height converter similar to that described by G.C.Neilsson and D.B.James (Rev.Sci.Instrum.,26, 1018, 1955). The x-rays were detected by a stilbene crystal; the high energy γ -rays were detected by means of a plastic scintillator. The value obtained for the lifetime of the 35.5 keV state of Te^{125} is $T = (1.32 \pm 0.21)$ nano-

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AP4010297

sec, which is in good agreement with the data in the literature. Orig.art.has: 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki, Moskovskogo gosudarstvennogo universiteta (Scientific Research Institute of Nuclear Physics, Moscow State University)

SUBMITTED: 00

DATE ACQ: 10Feb64

ENCL: 00

SUB CODE: NS

NR REF SOV: 002

OTHER: 004

Card 2/2

ROZANTSEV, S.

On a visit to the apartment-house maintenance workers in
Leipzig. Zhil.-kom.khoz. 9 no.12:29-30 '59.

(MIRA 13:4)

(Leipzig--Apartment houses--Maintenance and repair)

ROZANTSEV, S., inzhener.

Crane installed in windows. Zhil.-kom.khoz. 6 no.5:26 '56.
(Cranes, derricks, etc.) (MIRA 9:11)

ROZANTSEV, S.

For better and faster repair of apartment houses. Zhil.-kom.khoz.
6 no.1:9-11 '56. (MLRA 9:5)

1. Zamestitel' nachal'nika Glavnogo upravleniya zhilishchnogo kho-
zyaystva Ministerstva kommunal'nogo khozyaystva RSFSR.
(Apartment houses--Maintenance and repair)

ROZANTSEV, S.

Procedure for reckoning the charge for central heating. Zhil.-
kom. khoz. 13 no.5:30-31 My '63. (MIRA 16:8)

1. Nachal'nik Otdela ekspluatatsii Upravleniya zhilishchnogo
khozyaystva Ministerstva kommunal'nogo khozyaystva RSFSR.
(Heating—Costs)

ROZANTSEV, S.

"Improvement of courtyards" by I.U.S. Lantsberg. Reviewed by S. Rozantsev.
Zhil. stroi. no. 6:30 '62. (MIRA 15:7)
(Courtyards) (Lantsberg, I.U.S)

ROZANTSEV, S.

Give free play to cooperative construction. Zhil.-kom.khoz. 12
no.11:12 N '62. (MIRA 15:11)
(Apartment houses) (Construction industry)

ROZANTSEV, S.

Let's work toward this worthy objective. Zhil.-kom.khoz. 10 no.3:
3 '60. (MIRA 13:7)

1. Nachal'nik normativno-pravovo otдела Upravleniya zhilishchnogo
khozyaystva Ministerstva kommunal'nogo khozyaystva RSFSR.
(Veterans)

ROZANTSEV, Sergey Nikolayevich

[Children's playground at apartment houses] Fridomovye det-
skie ploschadki. Izd.2., dop. Moskva, Izd-vo M.-va kom-
mun.khoz. RSFSR, 1961. 28 p. (MIRA 15:9)
(Playgrounds)

ROZANTSEV, S.

What the consolidation of apartment house offices teaches us.
Zhil.-kom.khoz. 8 no.4:4-5 '58. (MIRA 11:5)

1.Zamestitel' nachal'nika Glavnogo upravleniya zhilishchnogo kho-
zyaystva Ministerstva kommunal'nogo khozyaystva RSFSR.
(Moscow--Apartment houses--Management)

ROZANTSEV, S.

Housing services in the German Democratic Republic. Zhil.-kom.khoz.
7 no.4:26-29 '57. (MIRA 10:7)

(Germany, East--Municipal services)

ROZANTSEV, S.

Repair apartment houses well and ahead of time. Zhil.-kom. khoz.
7 no.2:3-4 '57. (MLEA 10:4)

1. Zamestitel' nachal'nika Glavnogo upravleniya zhilishchnogo
khozyaystva.
(Apartment houses--Maintenance and repair)

ROZANTSEV, S.

Gantry crane. Stroitel' 2 no.9:10 S '56.

(MLRA 10:1)

1. Starshiy proizvoditel' rabot Kalininskogo gorremstriiresta.
(Cranes, derricks, etc)

ROZANTSEV, S.

Twenty-five years on the job as apartment house manager. Zhil.
-kom.khoz. 5 no.7:12-13 '55. (MLRA 9:1)

(Kukushkin, Pavel Timofeevich)

ROZANTSEV, S.

Consolidation of building repair organizations is a task that cannot
be put off. Zhil.-kom.khoz. 5 no.1:4-5 '55. (MLRA 8:5)
(Building--Repair and reconstruction)

ROZANTSEV, S.; IONOV, N.

Production bases of repair and construction bureaus. Zhil.-kon.khoz. 3 no.10:
12-16 0 '53. (MLRA 6:11)

(Building--Repair and reconstruction)

YEVDOKIMOV, V.; ROZANTSEV, S.

Important objectives of apartment-house management workers. Zhil.-
kom. khoz. 10 no.5:3-4 '60. (MIRA 13:10)
(Children--Management)

ROZANTSEV, S.

First steps of the apartment-house committees. Zhil.-kom.khoz.
10 no.9:4-5 '60. (MIRA 13:9)
(Apartment houses--Managment)

ROZANTSEV, S.

For our children. Zhil.-kom. khoz. 11 no.3:10-11 Nr '61.
(MIRA 14:3)

(Children)

DMITRIYEV, Nikolay Grigor'yevich; ROZANTSEV, S.N., red.; CHURINOV, A.I.,
red.izd-va; LELYUKHIN, A.A., tekhn.red.

[House committees are a great force; work practice of house
committees in Moscow Province] Domovye komitety - bol'shaia
sila; opyt raboty domkomov Moskovskoi oblasti. Moskva, Izd-vo
M-va kommun.khoz.RSFSR, 1960. 25 p.

(MIRA 14:4)

(Moscow Province--Housing management)

BRONER, D.L.; ROZANTSEV, S.N.; KHRISTENKO, V.P.; VOLKOV, S.V., tekhn.red.

[Housing management; reference manual for workers in housing management and in offices administering apartment houses]
Upravlenie zhilishchnym khoziaistvom; spravocnoe posobie dlia
rabotnikov domoupravlenii i zhilishchno-ekspluatatsionnykh
kontor. Izd.2., perer. Moskva, Izd-vo M-va kommun.khoz. RSFSR,
1959. 302 p. (MIRA 12:5)

(Housing management)
(Dwellings--Maintenance and repair)

VERT, Lev Vladimirovich; ROZANTSEV, Sergey Nikolayevich; CHIBRIKOV, Georgiy Nikolayevich; ALEKSEYEV, S.A., red.; CHURINOV, A.I., red. izd-va; PYRKINA, N.F., tekhn. red.

[Management of apartment houses] Eksploatatsiia zhilykh domov. Moskva, Izd-vo kommun. khoz. RSFSR, 1960. 229 p. (MIRA 14:7)
(Housing management)

ROZANTSEV, V.R.

Hydraulic resistances in GN-40-1000 sinking piston assembly for
petroleum production. Nauch.-tekh. sbor. po dob. nefti. no.20:72-
79 '63. (MIRA 17:6)

ROZANTSEV, V.R.

Working pressure as a function of the effective head and
the number of strokes in a hydraulic-piston pump for
petroleum production. Nauch.-tekhn. sbor. po dob. nefti
no.21:97-103 '63. (MIRA 17:5)

ROSIN, I.I.; KAZAK, A.S.; ROZANTSEV, V.R.

Indices of the plant test operation of hydropiston pumping machinery.
Neft.khoz. 41 no.10:40-45 0 '63. (MIRA 17:4)

VIRNOVSKIY, A.S.; ROZANTSEV, V.R.

Conditions for the nonpercussive operation of a hydraulic-
piston unit with valve distribution. Nauch.-tekhn. sbor.
po dob. nefti no.21:91-97 '63. (MIRA 17:5)

KAZAK, A.S., kand. tekhn. nauk; ROZANTSEV, V.R., inzh.

New type of pumping equipment. Vest. mashinostr. 43 no.7:80
Jl '63. (MIRA 16:8)

(Pumping machinery)

ROZANTSEV, Yevgeniy Serafimovich; UMRIKHIN, Anatoliy Nikolayevich;
TEPLITSKAYA, G., red.

[In seams subject to outbursts; manual for workers and
brigade captains] Na plastakh, sklonnykh k vybrosam; pa-
miatka dlia rabochikh i brigadirov. Kemerovo, Kemerov-
skoe knizhnoe izd-vo, 1964. 50 p. (MIRA 18:1)

CHERNOV, O.I., inzh.; ROZANTSEV, Ye.S.

Sudden outbursts of coal and gas and efforts to control
them in eastern coal basins of the U.S.S.R. Vop. bezop.
v ugol'. shakh. 1:70-88 '59. (MIRA 17:12)

CHERNOV, O.I.; ROZANTSEV, Ye.S.

Investigation for the purpose of determining the number of
advance boreholes while mining development workings on seams
presenting a danger of sudden outbursts of coal and gas.
Nauch. soob. VostNII no.3:71-79 '63. (MIRA 17:5)

CHERNOV, O.I.; ROZANTSEV, Ye.S.

Some results of studying the zones of influence of advancing boreholes in thick seams subjected to sudden outbursts of coal and gas. Ugol' 38 no.1:43-45 Ja '63. (MIRA 18:3)

1. Vostochnyy nauchno-issledovatel'skiy institut po bezopasnosti rabot v gornoy promyshlennosti.

ROZANTSEV, Ye.S.; UMRIKHIN, A.N.; SOTNIKOV, I.V.

Searching for and improving methods to control sudden outbursts
in development workings. Vop.bezop.v ugol'.shakh. 4:75-100 '64.
(MIRA 18:1)

FOIA: ON, V. 1.1, 1990

Brief news. Brief. (trans. v. 1.1) 18:50

(18:50)

1. Institut govnogo del: 18:50

ROZANTSEV, Ye.S., inzh.

Rising mining of coal beds subjected to sudden outbursts. Bezop.truda v
prom. 3 no.1:28-29 Ja '59. (MIRA 12:3)
(Kuznetsk Basin--Coal mines and mining--Safety measures)

ROZANTSEV, Ye.S., inzh.

L.N. Bykov's article entitled "Theory and practice of controlling coal and gas outbursts in mines." Ugol' 34 no.3:54-55
Mr '59. (MIRA 12:5)

1. Vostochnyy nauchno-issledovatel'skiy institut po bezopasnosti
rabot v gornoy promyshlennosti.
(Mine gases)
(Bykov, I.N.)

CHERNOV, O.I., starshiy nauchnyy sotrudnik; ROZANTSEV, Ye.S., starshiy nauchnyy sotrudnik

Preventing coal and gas outbursts in opening heavy seams with cross-headings. Bezop.truda v prom. 4 no.4:4-6 Ap '60. (MIRA 13:9)

1. Vostochnyy nauchno-issledovatel'skiy institut po bezopasnosti rabot v gornoy promyshlennosti.
(Coal mines and mining--Safety measures)

ROZANTSEV, Ye.S., inzhener

~~Readers' response to S.M. Garkavi's article "Effectiveness of~~
large diameter advance drainage wells for haulage headings in
seams presenting danger of coal and gas outbursts" (Ugol' no.
5, 1956). Ugol' 32 no.4:39-40 Ap '57. (MLRA 10:5)

1. Vostochnyy nauchno-issledovatel'skiy institut.
(Coal mines and mining--Safety measures)
(Garkavi, S.M.)

IVERONOVA, V.I.; KASSANDROVA, O.N.; ROZANTSEVA, Ye.G.

Characteristic temperature of iron-vanadium alloys. Izv. vys.
ucheb. zav.; chern. met. no.1:133-135 '60. (MIRA 13:1)

1. Moskovskiy gosudarstvennyy universitet.
(Iron-vanadium alloys--Thermal properties)

ROZANTSEV, Ye.S.; PUZYREV, V.N.

"Effect of the time element in mining protective seams" by N.I. Zhizlov, D.V. Dorokhov. Reviewed by E.S. Rozantsev, V.N. Puzyrev. Ugol' Ukr. 4 no.1:43-44 Ja '60. (MIRA 13:5)

1. Vostochnyy nauchno-issledovatel'skiy institut po bezopasnosti rabot v gornoy promyshlennosti.
(Coal mines and mining--Safety measures)
(Zhizlov, N.I.)
(Dorokhov, D.V.)

ROZANTSEV, Ye.S., inzh.; CHERNOV, O.I.

Protection of miners baring seams subjected to sudden outbursts.
Bezop.truda v prom. 5 no.12:15-17 D '61. (MIRA 15:1)
(Coal mines and mining--Safety measures)

LOMAS, L.

"Location of reduced insulation resistance faults in cable sections by means of an improved Behrend Method"

Osterr. Z. Telegr.-Teleph.-Funk Fernsehtech. (OTF) 6, 93-8 (JULY-Aug., 1952) In German

SO: SCIENCE ABSTRACTS, Section B, Electrical Engineering Abstracts, (February 1953) Unclass

ROZBERI, Teodor [Rosebery, Theodore], prof. (SShA)

Thoughts on the crisis in medicine. Mir nauki 5 no.4:15-19 '61.
(MIRA 15:2)

(UNITED STATES--MEDICAL CARE)

ROZBIANSKAYA, A.A.

Using trilon B for removing indium from copper, cadmium, lead,
zinc, and tin. Trudy Inst. min., geokhim. i kristallokhim. red.
elem. no.1:171-177 '57. (MIRA 11:6)
(Acetic acid) (Metals--Analysis)